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AIDS risk behaviours and correlates in teenagers attending sexually transmitted diseases clinics in Los Angeles

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Abstract

***Objective*—Of all age groups, teenagers have the highest rates of sexually transmitted diseases. Therefore, it is particularly important to target interventions at this group. Teenagers attending STD clinics are at particularly high risk since behaviours that lead to an STD can also result in the transmission of HIV. The goal of this study was to collect information concerning the prevalence and correlates of high-risk behaviours in this population as a first step in the design of an effective intervention programme.**

***Methodology*—Face-to-face interviews were conducted with patients attending five STD clinics operated by the Los Angeles County Department of Health Services.**

***Results*—In the exclusively heterosexual teenage subgroup (N = 100, 55% Hispanic, 28% African-American, 10% White), males became sexually active at a younger age than females (14 years vs 14·9 years, $p < 0·02$), had more partners in the last 12 months (4·1 vs 2·0, $p < 0·003$), more "steady" partners (2·2 vs 1·4, $p < 0·02$) and more life time partners (14·1 vs. 4·1, $p < 0·001$). Only 10·0% of males and 3·8% of females reported consistent condom use with steady partners and 36% of both male and female respondents with non-steady partners. The decision to use condoms during vaginal sex was most likely made by the respondent, whereas the decision *not* to use condoms was most likely a joint decision.**

***Conclusions*—An intervention aimed at improving sexual communication regarding condom use could increase this behaviour among many adolescents, since only few teenagers in our sample perceived condom use as unpleasant.**

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Keywords: Sex behaviour; Adolescents; HIV; Condom use; STD clinics; USA

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Introduction

The majority of teenagers in the United States have had intercourse, about one million teenage girls become pregnant each year, and approximately one in five adolescents will have acquired a sexually transmitted disease by the age of 21 years.[1 2] Of all age groups, teenagers have the highest rates of sexually transmitted diseases.[3] These statistics indicate that a large proportion of teenagers have unprotected intercourse which puts them at risk for HIV infection. At present, only a small fraction of AIDS cases in the United States are diagnosed in persons between 13 and 19 years of age. However, given the long incubation time of the virus, it is likely that many of the cases diagnosed in the 19 to 25 year age group were infected at a younger age.

Consistent condom use would considerably decrease the risk for AIDS, other sexually transmitted diseases, and unwanted pregnancies. For the reasons outlined above, interventions specifically targeting adolescents, especially those at high risk, are urgently needed. Teenagers attending STD clinics are at particularly high risk since behaviours that lead to an STD can also result in the transmission of HIV. However, in order to design effective interventions, information concerning the prevalence and correlates of high-risk behaviours in this population needs to be taken into account.

We conducted a survey of 1,023 patients between the ages of 14 and 75 years in five Sexually Transmitted Diseases (STD) Clinics in Los Angeles, California, to learn more about sexual risk-behaviours and correlates in this high risk population. This report describes the subsample of teenagers (N = 100) who were part of the larger study.

Methods

Procedure

Face-to-face interviews were conducted in five STD clinics operated by the Los Angeles County Department of Health Services with patients randomly selected from daily clinic sign-in logs between June 1991 and March 1992. Selected patients were approached by one of the four study interviewers, who explained the purpose of the study and the nature of the questions. All interviewers were female since both male and female focus group participants stated that they would feel comfortable reporting intimate behaviours to a female interviewer. Interviews, which averaged 28 minutes in this group of teenagers, were conducted in private rooms provided by each clinic. About 34% of teenagers who identified themselves as Latino were interviewed in Spanish (19% of the adolescent sample). After the interview, each respondent was paid $5·00 for his or her time, given information booklets on AIDS and safer sex in either English or Spanish, and offered free condoms. The study was approved by the

UCLA Committee for the Protection of Human Subjects.

The response rate was exceptionally high, with fewer than 1% of patients approached refusing to be interviewed. All data presented are based upon self-reports. We used several techniques to maximise accurate self-disclosure: code numbers rather than names were used on the questionnaires, and informed consent forms were kept separate from the questionnaire, participants were assured that their responses would be kept confidential; and more sensitive questions were asked in the latter part of the interview after rapport was established.

Subjects

The mean age of this teenage sample (44 males, 56 females) was 18·5 years. These adolescents were 55% Hispanic, 28% African-American, 10% White and 7% were of other ethnicities (table 1); the majority of Hispanics identified themselves as Mexican (60·0%) or Mexican-American (34·5%). Sixty-three percent of respondents were in a serious relationship, 6% were married and 31% reported no steady partner. Sixty-two percent had fewer than 12 years of education.

The majority of the sample (64%) attended the clinic because of STD symptoms; 11% were asymptomatic but requested an STD examination; 13% were referred by the Health Department or by a sex partner and 7% required follow-up treatment of an STD.

We excluded four teenagers who identified themselves as homosexual (three males) or bisexual (one male); in this paper we will report results only for teenagers reporting themselves as exclusively heterosexual.

Table 1 Demographic characteristics of heterosexual respondents <20 years of age

	Males (N = 44)		*Females (N = 56)*		*Total (N = 100)*
	N	*%*	*N*	*%*	*%*
Age					
14 years			1	1·8	1·0
15 years	1	2·3	3	5·4	4·0
16 years	3	6·8	8	14·3	11·0
17 years	11	25·0	6	10·7	17·0
18 years	9	20·5	14	25·0	23·0
19 years	20	45·4	24	42·8	44·0
Ethnicity					
White	6	13·6	4	7·1	10·0
African American	11	25·0	17	30·4	28·0
Hispanic	26	59·1	29	51·8	55·0
Other	1	2·3	6	10·7	7·0
Born in the United States	23	52·3	36	64·3	59·0
Education					
<12	29	65·9	33	58·9	62·0
12	13	29·5	20	35·7	33·0
>12	2	4·5	3	5·4	5·0
Marital Status/Relationship Status					
Married	0	0·0	6	10·7	6·0
Serious relationship/living together	1	2·3	13	23·2	14·0
Serious relationship/not living together	22	50·0	27	48·2	49·0
No steady partner	21	47·7	10	17·9	31·0
Employment Status					
Full/part-time	18	40·9	15	26·8	33·0
Unemployed	13	29·5	13	23·2	26·0
Homemaker	0	0·0	10	17·9	10·0
Student	18	40·9	25	44·6	43·0

Table 2 Perceived risk for contracting HIV

	Males (N = 44)		*Females (N = 56)*		*Total (N = 100)*
Item	*N*	*%*	*N*	*%*	*%*
Do you think that you are at risk of getting AIDS?					
YES	18	40·9	25	44·6	43
NO	25	56·8	27	48·2	52
Do you ever worry about getting AIDS from someone you have/had sex with?					
YES	16	36·4	28	50·0	44
NO	27	61·4	27	48·2	54
How worried are you about getting AIDS?					
Very worried	20	45·5	36	64·3	56
Somewhat worried	14	31·8	11	19·6	25
Not worried	9	20·5	9	16·1	18
Thinking of all your partners over the last ten years, how likely is it that you were exposed to the AIDS virus?					
Very likely	2	4·5	7	12·5	9
Somewhat likely	10	22·7	9	16·1	19
Very unlikely	30	68·2	38	67·9	68

Questionnaire

The questionnaire (which may be obtained from the first author) contained a core of 75 items tapping demographics, access to health care, STD history, HIV testing and partner notification, knowledge of HIV transmission, perceived risk of contracting HIV, high risk behaviours (IV drug use, prostitution etc.), domestic violence, decision making within relationships and cultural or social group norms. In addition, a set of detailed questions was asked regarding specific sexual behaviours with "steady" and "non-steady" partners during the past 12 months, risk profiles of these partners, and condom use during vaginal and anal intercourse. Finally, we assessed preferences for AIDS education classes with respect to gender and ethnicity of instructor and class participants. The questionnaire was discussed with staff of the Los Angeles County STD programme and pretested with patients in the participating STD clinics.

Data analysis

Descriptive statistical procedures were used to examine the characteristics of the subjects. In addition, Pearson chi square and Student's *t* test for two independent samples were used to examine the differences between male and female respondents. Because of the small sample size, we focused our analyses on questions pertaining to risk behaviours of respondents and their sexual partners and the decision-making process regarding condom use in conjunction with vaginal sex.

Results

Knowledge regarding transmission of HIV

Over 90% of the teenagers knew that a woman can get AIDS by having sex with a man and that a man can get AIDS by having sex with a woman. However, only 55% (50% M, 59% F) knew that people with an STD have an increased risk of getting AIDS.

Perceived risk for contracting HIV

As shown in table 2, more than 50% of respondents did *not* think that they were at

risk for getting AIDS and did *not* ever worry about getting AIDS from a sexual partner. Reasons cited by those *not* feeling at risk were being monogamous (8% M, 50% F, $p < 0.001$), or having only few partners (16% M, 7% F), and using condoms (28% M, 18% F). While nearly 70% of respondents thought that it was very unlikely that they had been exposed to the AIDS virus, 56% were very worried and 25% somewhat worried about getting AIDS. Reasons cited by those who were worried were that AIDS is a deadly disease (56% M, 49% F), and that anyone can contract the disease (21% M, 26% F).

HIV testing

About 25% of both males and females had been tested for HIV. None of the respondents reported a positive test result. The majority of respondents were willing to be tested, either confidentially (84% M, 82% F) or anonymously (4% M, 7% F).

High risk sexual behaviour of respondents and their sexual partners

As table 3 indicates, on average, males became sexually active at a slightly younger age than females (14 years vs 14·9 years, $p < 0.02$), had more partners in the last 12 months (4·1 vs 2·0, $p < 0.003$), more "steady" partners (2·2 vs 1·4, $p < 0.02$) and more life time partners (14·1 vs 4·1, $p < 0.001$). Females tended to report a higher frequency of vaginal intercourse per month with steady partners than males (12·1 vs 8·1). About 7% of males and 11% of females reported engaging in anal sex with a steady partner at least once a month. Of 23 males and 16 females who reported any vaginal intercourse with non-steady partners, 11 males and 13 females reported having had vaginal intercourse only once with each partner. Three males and one female reported having engaged in anal sex with a non-steady partner.

Fifty-nine percent of males (n = 26) and 46% of females (n = 26) reported sometimes using alcohol before intercourse. Of these, 42% of the males (n = 11) and 46% of females (n = 12) reported that they would be less likely to use condoms after alcohol use. Thirty-two percent of males (n = 14) and 9% of females (n = 5) reported sometimes using drugs before intercourse ($p < 0.004$). Of these, 27% of males (n = 3) and 20% of females (n = 1) reported that they would be less likely to use condoms after drug use. Of those who had more than one sexual partner in the last 12 months (30 males, 28 females), 40% of males and 25% of females said they would be more likely to have casual sex under the influence of drugs or alcohol. Almost 7% of males and 11% of females had ever used crack cocaine and only 2·3% of males and none of the females had ever used a needle to inject "something".

While males generally reported more high risk sexual behaviours than females, females were more likely to be at risk owing to high risk behaviours of their sexual partners. The most commonly reported risk behaviours of sexual partners were having sex with many people and having been treated for an STD (table 4). Almost 50% of females had at least one partner who had sex with many people compared to almost 30% of males ($p < 0.05$). While females reported having both steady and non-steady partners who had many sex partners, males reported a similar proportion of non-steady partners but fewer steady partners who had many sex partners. Similarly, almost 40% of females and about 15% of males had at least one partner who had been treated for an STD ($p < 0.001$). Both males and females reported more steady partners who had been treated for an STD than non-steady partners. It is reasonable to assume that respondents may not have had this information about their non-steady partners, especially considering the large proportion of respondents who had sex only once with a nonsteady partner (as reported above).

Almost 9% of females and 5% of males had at least one partner who had sex with sex workers. Partners who had sex with sex workers were more likely to be described as non-steady partners. Partners who used IV drugs were reported by few respondents.

Condom use

Only 10·0% of males and 3·8% of females reported consistent condom use during vaginal sex with steady partners and 34·8% of males and 37·5% of females with non-steady

Table 3 Risk behaviours of respondents

	Males (N = 44) (mean, SD)	*Females (N = 56) (mean, SD)*	*p**
Age of beginning sexual activity	14·0, 2·2[2]	14·9, 1·4	0·02
Number of partners in past 12 months	4·1, 3·8	2·0, 2·6	0·003
Number of steady partners in past 12 months	2·2, 2·1	1·4, 1·3	0·02
Number of lifetime partners	14·1, 17·6	4·1, 7·1	0·001
Vaginal sex per month with steady partner	8·1, 8·3	12·1, 10·8	0·06 (NS)
	%	%	
Had anal sex at least once a month with steady partner	6·8	10·7	0·89 (NS)
Uses alcohol before sex			
All or most of the time	20·4	5·4	0·1 (NS)
Sometimes	38·6	41·1	
Never	38·6	53·6	
Uses drugs before sex			
All or most of the time	2·3	3·6	0·004
Sometimes	30·2	5·5	
Never	67·4	90·9	
Has ever used crack cocaine	6·8	10·7	0·52 (NS)
Ever used a needle to inject something	2·3	0·0	0·25 (NS)

*Significantly different between males and females.

Table 4 Risk profiles of sexual partner(s)

	Had at least 1 partner who		*Had at least 1 steady partner who*		*Had at least 1 non-steady partner who*	
	Males (N = 44) %	*Females (N = 56) %*	*Males (N = 44) %*	*Females (N = 56) %*	*Males (N = 24) %*	*Females (N = 24) %*
Used IV drugs	2·3	3·6	0·0	3·6	4·2*	0·0*
Had sex with prostitutes	4·5	8·9	0·0	8·9	8·3	20·8
Had sex with many people	27·3*	48·2*	9·1†	41·1†	37·5*	41·7*
Was treated for STD	15·9‡	39·3‡	15·9	32·1	0·0†	20·8†
Was HIV positive	0·0	1·8	0·0	0·0	0·0*	4·2*

* $p < 0.05$.
† $p < 0.005$.
‡ $p < 0.001$.
Significantly different between males and females, chi square test.

partners (table 5). The decision to use condoms during vaginal sex with a steady partner was most likely made by the respondent (70% M, 55% F). This was even more so for condom use with non-steady partners (93% M, 75% F).

The decision *not* to use condoms (asked of those who never used condoms) was most likely a joint decision (53% M, 46% F with steady partners; 67% M, 86% F with non-steady partners). However, in the case of an individual decision, it was the male partner who was more likely to make the decision *not* to use condoms with a steady partner (29% M, 9% F). Forty-one percent of females compared with only 12% males reported that the decision was made by their partner. The most common reason for *not* always using condoms was lack of availability. Over 50% of the males and 30% of females gave this reason for not always using condoms with non-steady partners, and 31% of males and 14% of females reported not always having a condom available for intercourse with a steady partner. Ten to 15% of respondents gave other reasons for not always using condoms. These include the perception that condoms are unpleasant or reduce pleasure, or that the respondent forgot to use them. Condom use for anal sex is not reported here because of the small number who engaged in this behaviour.

We analysed the bivariate relationships between condom use and demographic variables, perceived susceptibility to AIDS, communication with partner about safer sex, perceived group norms, STD history of respondent, and number of sexual partners. None of the relationships were statistically significant, which can be attributed, at least in part, to the small sample size. However, the results do suggest that consistent condom use with both steady and non-steady partners was more likely to be reported by respondents who had an STD history, who had talked about safer sex with their partner, who felt that their friends would be supportive of condom use, and who believed that most or all of their friends use condoms.

Table 5 Condom use in conjunction with vaginal sex during the last 12 months

	Steady partner		*Non-steady partner*	
	Males	*Females*	*Males*	*Females*
How often do you use a condom when having vaginal sex with your steady/non-steady partner?	(N = 40) %	(N = 53) %	(N = 23) %	(N = 16) %
Always	10·0	3·8	34·8	37·5
Most of the time	30·0	18·9	21·7	12·5
Sometimes	17·5	35·8	4·3	6·3
Never	42·5	41·4	39·1	43·8
Who usually decides if you use a condom?	(N = 23) %	(N = 31) %	(N = 14) %	(N = 8) %
Respondent	69·6	54·8	92·9	75·0
Partner	13·0	19·4	7·1	12·5
Both	17·4	25·8	0·0	12·5
Who makes the decision *not* to use condoms*?	(N = 17) %	(N = 22) %	(N = 9) %	(N = 7) %
Respondent	29·4	9·1	33·3	0·0
Partner	11·8	40·9	0·0	0·0
Both	52·9	45·5	66·7	85·7

*Only asked of respondents who reported never using a condom.

Preferences for AIDS education classes

Sixteen percent of males and 48% of females preferred an instructor of their own gender and 27% of males and 15% of females preferred an instructor of their own ethnic group. With respect to other participants in the class, 9% of males and 16% of females preferred classes to be limited to participants of their own gender and 23% of males and 18% of females preferred only or mostly participants of their own ethnic group.

Discussion

This analysis describes AIDS risk behaviours and correlates in an ethnically diverse group of teenagers sampled in public STD clinics. Our results confirm previous findings among high risk youths regarding knowledge, attitudes and behaviours concerning HIV. Our survey adds in-depth information with respect to issues that are not as well explored, including sexual communication and the decision making process regarding condom use, as well as preferences for AIDS education classes.

More than 50% of our teenage sample did not perceive themselves as being at risk for HIV, despite being a patient in an STD clinic. Similar results were found among adolescent women sampled in a family planning clinic.[4] According to the Health Belief Model[5] and as shown by Hingson *et al*,[6] individuals who perceive themselves as being at risk for a disease are more likely to engage in preventive behaviours than are individuals not holding these beliefs. A visit in an STD clinic may constitute a "teachable moment," in which the message should be conveyed that behaviours leading to an STD can also result in the transmission of HIV.

HIV testing and counselling should be offered to all patients in STD clinics. Our data indicate that the majority of adolescents are willing to be tested. In addition, Hingson *et al*[6] found that adolescents who have discussed AIDS with a health professional are more likely to use condoms as compared to teenagers who have not done so.

Both female and male respondents started sexual activities at a young age and mostly had unprotected sex with multiple partners who themselves had sex with a number of partners. Unprotected sex with multiple partners, a behaviour that was reported more frequently after the use of drugs and alcohol, is contributing to the rapid transmission of HIV in the adolescent age group.[7] Once a critical number of adolescents are infected, transmission will occur even more rapidly if this behaviour is maintained.

This study indicates that a substantial proportion of teenagers (7% of males, 11% of females) engage in anal intercourse at least once a month. This proportion is similar to Voeller's estimate[8] that about 10% of heterosexuals in the U.S. engage in anal intercourse "with some frequency". Our research group also reported similar findings from a household probability sample of over 3,000 heterosexual Californian adults, in which 8% of

males and 6% of females reported having anal sex at least once a month.[9] Since anal intercourse is one of the most efficient modes of transmission of the HIV virus[10 11] intervention programmes need to stress the need for condom use during anal sex.

Considering these high risk behaviours, condom use is of great importance to prevent the transmission of HIV and other STDs in this sample. Our study showed, however, that condom use is low in this high-risk group of teenagers. Only 10·0% of males and 3·8% of females reported consistent condom use with steady partners and 36% of respondents with non-steady partners. Other studies which do not distinguish between steady and non-steady partners report rates of condom use similar to our rate in non-steady partners. In a general population survey of adolescents in Massachusetts in 1988, 31% of sexually active teenagers always used condoms.[6] Keller *et al*[12] found consistent condom use in about 25% of sexually active inner city adolescents residing in an area in which HIV is endemic. Weisman *et al*[4] reported that 38% of sexually active women surveyed in a family clinic in Baltimore had used a condom at last intercourse. Diclemente[13] found consistent condom use in 29% of sexually active adolescents incarcerated in a juvenile detention facility. Jemmott *et al*[14] reported consistent condom use in 30% of inner-city black male adolescents. These studies show that about two thirds of sexually active adolescents need to change their behaviour with respect to condom use.

Pretesting of the questionnaire indicated that the term "steady partner" was preferred over "main partner" and interpreted as most frequent partner, long-term partner, boy friend or girl friend. In our teenage sample, the concept of "steady" partner cannot be interpreted as one exclusive long-term partner, since males reported an average of 2·2 and females an average of 1·4 steady partners in the last 12 months, indicating serial monogamy. The concept of steady versus non-steady partner strongly influenced condom use and decision making regarding condom use. Therefore, it should be further explored.

The decision making process for use or non-use of condoms is rarely reported in the literature. We found that among teenagers who use condoms during vaginal intercourse, males are in general more likely than females to make the decision that condoms should be used. There are two explanations for this finding: males may, in fact, be more likely to be the decision makers, thus conforming to the traditional male role of leadership. Alternatively, the difference may reflect a reporting bias; some women who have convinced their partners of the need to use condoms may report that the decision was made jointly. Some males in this situation, influenced by the traditional male role model, may even perceive that they made the decision themselves.

Both men and women are even more likely to report having personally determined whether condoms are used if intercourse with non-steady partners is involved. This and the fact that condoms are used more frequently with non-steady partners implies that adolescents see a greater need for condom use with non-steady partners or experience fewer barriers to asking for and insisting on condom use. Again, this decision making process, and the presence and absence of barriers to condom use with steady and non-steady partners, should be further explored.

The decision *not* to use condoms is most likely a joint decision. It may be that after a discussion, both partners agree that no condom should be used. Or neither partner may bring up the topic of condom use and sexual intercourse may simply "happen" without it. The second scenario appears to be more likely to the authors, especially with non-steady partners, insofar as condom use is very rarely a joint decision or decided by the partner. This suggests a lack of sexual communication regarding condom use. Our hypothesis that condoms are not used because the topic is not brought up by either sex partner is also supported by the reported reason for not always using condoms, that is, lack of availability and forgetting to use. Only 10–15% of respondents perceived condom use as unpleasant and may therefore resist condom use. Lack of condom availability also conforms to the fact that sex is often not a planned event among adolescents.[15]

Although developing behavioural interventions for teenagers targeting change and maintenance of complex sexual behaviours is particularly challenging,[16 17] this study provides some preliminary information that may be helpful in designing effective interventions. An intervention aimed at improving sexual communication regarding condom use could increase this behaviour among many adolescents, since only few teenagers in our sample perceived condom use as unpleasant. Role playing to practice how to begin a discussion on safer sex and how to request and insist on condom use, accompanied by training on how to correctly use a condom, may be an effective intervention for the prevention of AIDS and other STDs as well as unwanted pregnancies in teenagers. Further, our findings suggest that HIV testing and counselling should be offered to all teenagers attending an STD clinic and it should be stressed that behaviours that lead to an STD can also result in the transmission of HIV. In coordinating AIDS education classes, the strong preference of female adolescents for female instructors should always be taken into account and if possible, class participants and instructors should be matched by gender and ethnicity.

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